

## REMARKS

This is in response to the Official Action dated January 5, 2004. In that Official Action, Claims 35-38 were allowed and, as such, are retained. All of the other claims have been cancelled without prejudice. However, it will be noted that Claims 55 and 56 are similar to cancelled Claims 31 and 32. Claims 57 and 58 are similar to cancelled Claims 34 and 35. Cancelled Claims 39-44 are similar to new Claims 59-64. Claims which were withdrawn as a result of the restriction requirement, that is Claims 45-54, have been cancelled without prejudice for the purpose of facilitating further prosecution of the Application.

On page 2 of the Official Action, Claims 35-44 were rejected under the judicially created Doctrine of Obviousness-Type Double Patenting as being unfathomable over Claims 1-3 of U.S. Patent No. 6,323,033 B1, of van den Berg, which issued November 27, 2002, in view of U.S. Patent No. 5,567,444, to Hei et al, dated October 22, 1996. It is noted on page 3 of the Official Action that this rejection may be overcome by a timely filed Terminal Disclaimer. Accordingly, a Terminal Disclaimer is submitted herewith for this purpose. However, it should be noted that the only effect that this will have is that a patent to issue from the instant Application and from U.S. Patent No. 6,323,033 will, if assigned, have to be assigned at the same time to the same entity inasmuch as their effective filing dates are the same. The filing of the Terminal Disclaimer should not be interpreted as a concurrence with the double patenting rejection.

On pages 4 and 5 of the Official Action, Claims 31-33 which correspond to Claims 55-57 herein, were rejected under 35 U.S.C. §102(e) as being anticipated by the Hei et al reference. This patent is directed to a potentiated aqueous ozone cleaning and sanitizing composition for removal of contaminating soil from a surface. Basically this patent is directed to a method for cleaning a soil, from a surface, that can be a tenacious contaminating residue or film such as that

derived from an organic or food source wherein such cleaning is followed by sanitizing the clean surface. In column 7 of this reference, in the first full paragraph, it is indicated that a preferred application of the reference relates, *inter alia*, to dairy processing equipment such as is made from glass or stainless steel which can be found both in dairy farm installations and in dairy plant installations for the processing of milk, cheese, ice cream and other dairy products. The process as disclosed in the reference is essentially a two step process. First ozone is generated which, together with air, is injected through a hose onto a carrier solution. A number of media are mentioned as the carrier solution such as an alkaline aqueous medium and the surfaces to be cleaned are sprayed therewith. The surface when cleaned, if stainless steel, becomes very reflective and colorization is removed. The first step not only cleans the surface involved but simultaneously acts as a sanitizer. The second step is the contact of the cleaned surface or clean-in-place process facilities with an aqueous sanitizing composition comprising an effective amount of hydrogen peroxide, peroxyacid, namely a  $C_1 - C_{10}$  peroxyaliphatic carboxylic acid or a mixture thereof. The purpose of this mixture is to afford an effective quenching of the ozone and also sanitizing of the solid surface.

It will be noted that although the Hei et al reference mentions that the process disclosed therein may be used in equipment found in diary farm installations for the processing of milk and other dairy products, the specific equipment is not spelled out, as such, in the reference. Needless to say, there is a considerable amount and variety of equipment at a dairy farm which must be sanitized.

In Claim 55, it is set forth specifically that the process involved takes places in an automated milking system wherein the milking is accomplished by a milking robot and that the hydrogen peroxide involved is applied to interior parts of the milk line system. It is pointed out

in the Specification of the instant invention that there is a difference in how the cleaning is conducted in a non-automated milking system that does not have robotic milking of the dairy animals and a system which has an automated milking system wherein the milking is accomplished by a dairy robot. In the former, the milk line system is customarily accomplished after a herd has been milked -- usually twice a day. The persons who place the teat cups on the teats of the animals in the herd will take care of the cleaning of the system which is largely, but usually not entirely, automatic. With an automated milking system there is no one around to do this job and therefore it must be taken care of automatically and sufficiently to meet sanitary demands. In practice this may be less than twice a day, say once a day, and is not based upon when the entire herd has been milked because the frequency of the milking of each milk producing animal varies. Thus one cow may be milked as many as four or five times a day and another cow perhaps only twice a day. Nevertheless, a predetermined criteria is applied which may be after a predetermined number of animals have been milked or after a predetermined length of time.

The difference between a fully automated system and a system wherein the teat cups are not placed on the animals teats automatically is not trivial. Automated milking equipment is costly and it is to the benefit of the dairy farm owner that it be used in a continuous fashion, night and day. When the milk line system is being cleaned, then, unless there is more than one milk line system for each robotic milking compartment, the automated system is out of commission for the period of time it takes to complete the cleaning process. This can and usually does mean that several less animals can be milked in a given period of time such as 24 hours due to this circumstance. This is not true of conventional milking systems wherein a person is on hand to place the teats on the milk producing animals, after which the milking

system, as such, is cleaned. Incidentally, in this respect the automated systems milk each milk producing animal at an average of about three times a day and, as a result, considerably more milk is obtained. In any event, there is no suggestion that the cleaning system disclosed in the Hei et al patent is intended to include an automated milking system wherein the milking is accomplished by a milking robot. Indeed, there is no suggestion that the cleaning process of Hei et al would be compatible with us in an automated milking system.

Concerning Claim 56, nothing was noted in the Hei et al disclosure that about three percent to eight percent of hydrogen peroxide by weight, the remainder of the cleaning fluid being essentially water, be applied. In fact, the percentage of hydrogen peroxide, as such, in the Hei et al reference that in fact is applied to the surfaces involved is at most about one percent. It does state that the "concentrate" which is mixed with water or other liquid to be applied to the surfaces may be of a greater percentage. But the actual amount of hydrogen peroxide is usually expressed in parts per million. In column 12, line 64, it is stated that dilutions of 1-500 or 1-1,000 can be obtained with two percent to twenty total peracids "in the concentrate." Accordingly, it will be noted that the Hei et al reference does not teach, contrary to what is set forth in the Official Action, the method set forth in Claim 56. There is definitely no teaching in the Hei et al patent of Claim 58 wherein the peracetic acid is in a range of five to fifteen percent by weight, the balance being essentially water.

In summary, considering Claims 55-58 which correspond to earlier Claims 31-34, the Hei et al reference definitely does not anticipate and also does not teach the invention of the instant Application.

Claim 34 which corresponds to current Claim 58 and is dependent on Claim 57, it is set forth that the peracetic acid is in a range of five to fifteen percent by weight, the balance being

essentially water. Claim 34 was rejected under 35 U.S.C. §103 on the basis of a combination of Hei et al and U.S. Patent No. 4,051,059, of Bowing et al. This reference is directed to perxy-containing concentrates, stable and storage being useful for production of functional agents which consists of .5% to 20% by weight of peracetic or perpropionic acid or their precursors and 25% to 40% by weight of hydrogen peroxide.

Not only is there no teaching provided that would suggest the particular claimed combination but, in addition, Claim 58 is dependent on Claim 57 wherein it is stated that the peracetic acid is an equilibrium product obtained by mixing hydrogen peroxide with acetic acid. In Claim 58, the peracetic acid is in the range of 5% to 15% by weight, the balance being essentially water. It will be noted that this 15% is less, by a 10% factor, to the weight of hydrogen peroxide set forth in the Bowing et al disclosure. This is thus a situation where not only the plus (+) is not disclosed by the references but in addition since the peracetic acid of Claim 57 is already an equilibrium product obtained by mixing hydrogen peroxide with acetic acid, Bowing et al would have to teach that the H<sub>2</sub>O<sub>2</sub> was considerably less than 25% by weight to suggest Claim 58.

On page 6 of the Official Action, in Claims 39-44 were rejected under 35 U.S.C. §103 on the basis of the patent to Bodecker et al, DE3424711A, published February 6, 1986, in view of the Hei et al reference.

As understood, DE3424711A discloses a cleaning system for food manufacturing machinery where the cleaning fluid is applied to the soiled parts without dismantling them. It uses a pair of measured values to show the electrical conductivity of the cleaning fluid before and after application. During the cleaning phase, the separate values are compared with each other. The cleaning phase has ended when the difference between the separate and simultaneous

values has dropped to a preset minimum level. The advantage is indicated to be that the duration of the cleaning phase is controlled according to the effect of the cleaning fluid on the soiled parts. This is alleged to reduce energy costs compared with systems where the cleaning phase can operate longer than necessary and cuts down times on the machinery being cleaned.

Claim 59 is an independent claim and Claims 60-64 are claims which depend on Claim 59. Claim 59 sets forth that the method involved occurs in an automated milking system wherein the milking is accomplished by a milking robot and the milk line system is automatically cleaned based on a predetermined criteria. The method claimed to be used in this system is for determining the extent to which a milk line system is cleaned by a fluid containing hydrogen peroxide comprising maintaining the hydrogen peroxide containing fluid at a selected temperature and measuring it in one or more places in the milk line system to determine the electric conductivity of the hydrogen containing fluid as it is flowing therethrough and thus determining the purity of the hydrogen peroxide containing fluid at one or more places in the milk line system based on the electric conductivity of the hydrogen peroxide containing fluid at the place or places so mentioned. This is certainly not taught by the Hei et al reference. DE3424711A does not appear to be directed to hydrogen peroxide as the cleaning fluid or, if it does, it does not teach maintaining the hydrogen peroxide containing fluid at a selected temperature. Moreover, it is not considered that the combination is appropriate inasmuch as nothing has been cited which would lead to or otherwise suggest the combination.

Concerning Claim 60, the cited references failed to show that the hydrogen peroxide fluid is measured in a plurality of places at which the milk line system is most susceptible to contamination.

The method according to Claim 61 is entirely distinctive from the cited combination, no matter how combined, for teaching that the electric conductivity of the hydrogen peroxide containing fluid is measured in lines which interconnect teat cups with a collection vessel. Also for reasons heretofore set forth, Claims 62-64 are directed to inventive concepts which are not remotely suggested, as such, by the combination of DE3424711A with a Hei et al patent.

Again, further consideration and reexamination of this Application, in its amended form, is requested in view of 35 U.S.C. §132 and other pertinent statutory provisions and regulations. It is submitted, the Application, in its amended form, is free from ambiguity and avoids the references of record. It is further submitted the Examiner should have not have difficulty in determining that the differences between the subject matter sought to be patented in this Application and prior art and usage are such, in his expert opinion, that the subject matter as a whole would not have been obvious at the time the invention was made to persons having ordinary skill in the art to which the subject matter of this Application pertains.

Respectfully submitted,

MASON, MASON & ALBRIGHT

By   
Penrose Lucas Albright  
Registration No. 19,082

2306 South Eads Street  
P.O. Box 2246  
Arlington, VA 22202  
Tel (703) 979-3242  
Fax (703) 979-2526

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